

Application No.: 10/694,287
Amendment dated: December 1, 2006
Reply to Office Action of September 1, 2006
Attorney Docket No.: 21295.65 (H5680US)

c.) Remarks

Claims 1-13 are pending in this application. Claims 1-13 have been amended in various particulars as indicated hereinabove. Turning first to the Office Action Summary Sheet, Claims 1-13 are pending in this application. Claims 1-13 are rejected.

Turning now to the merits, Claims 1, 2, 4, 5 and 7-13 were rejected under 35 U.S.C. 103(a) over Eastman (US 6,411,434) in view of Lanni (US 4,621,911). Claim 3 was rejected under 35 U.S.C. 103(a) over Eastman in view of Lanni as applied to claim 1 above, and further in view of Lakowicz (US2002/0160400). Claim 6 was rejected under 35 U.S.C. 103(a) over Eastman in view of Lanni as applied to claim 1 above, and further in view of Aagard (US 3,720,924). These rejections are respectfully traversed for the following reasons.

For an obviousness rejection to be proper, the Patent Office must meet the burden of establishing a prima facie case of obviousness. The Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the cited publications, which must have a suggestion, teaching or motivation for one of ordinary skill in the art to modify a reference or combined references.¹ The cited publications should explicitly provide a reasonable expectation of success, determined from the position of one of ordinary skill in the art at the time the invention was made.² As argued below, this burden has not been met.

The Patent Office asserted that "Eastman teaches a confocal microscope with a sample carrier (abstract) comprising a first coverslip (26) and a second coverslip (16); a frame (12 and 14) to hold a first coverslip (26) and second coverslip (16) with a cavity between them (Fig. 6). Eastman further teaches a medium filled in the cavity (col. 7, lines 32-37)." The cited Eastman teaching does not disclose elements of amended independent

¹ *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

² *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970);

Amgen v. Chugai Pharmaceuticals Co., 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996);

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Claim 1. In particular, Eastman does not disclose a first and a second coverslips immovably secured in a frame. What the Patent Office called a first coverslip (26) actually is a thin pliable membrane (26) in the Eastman patent, as can be seen in Figs. 6-9 and Col. 7, lines 8-12:

“The membrane 26 may be, for example, a thin layer of plastic, such as plastic wrap used for food preservation, and should be sufficiently transparent to provide viewing therethrough by a user or camera.”

That pliable membrane is bent to contact window (16) and to be heat bonded or sonic welded to that window (16), as shown in Fig. 9 and described in Col. 8, line 58 – Col. 9 line 1 of Eastman. The Eastman “pliable membrane bent and bonded to the window” arrangement has nothing to do with the first and the second coverslips immovably secured in a frame and forming a cavity between them in that immovable configuration, as claimed in amended independent Claim 1.

Additionally, the cavity defined in Fig. 6 of Eastman and referred to by the Patent Office in the Office Action is not uniformly filled by a medium, as claimed in amended independent Claim 1 of the present application. The cavity shown in Fig. 6 of Eastman and formed between pliable membrane 26 and window 16 is never uniformly filled by any medium. Only a portion of that cavity in Fig. 6 is later filled with a fluid, the portion formed after bending the membrane 26, heat or weld bonding it to window 16 to conform to the shape of the specimen. And then filling that portion in the shape of the specimen with a fluid, as shown in Figs. 12 and 12A and described in Col. 9, lines 28-31 of Eastman. As can be clearly seen in Figs. 12 and 12A, a large portion of the cavity as defined in Fig. 6 (above the deformed bonded membrane) contains no fluid medium. Therefore, uniform filling of the cavity formed between the first and the second coverslips with a medium, as claimed in amended independent Claim 1, is not disclosed in Eastman.

The Patent Office has also asserted in the Office Action that “the refractive index of the Eastman medium must approximately match the refractive indices of the first and second coverslips, because a significant difference between the refractive indices would

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cause reflection of light at the interface of the medium and the coverslip.” Applicant objects to such a conclusion for the following reasons.

Eastman does not disclose anything about the first and the second coverslips having approximately the same index of refraction and about the filling medium having approximately the same index of refraction. This is logical, because Eastman deals with a different specimen holder for different purpose in a different optical system. The optical system in Eastman, as shown in Fig. 14, has one confocal imaging head 64 which faces the specimen at window 16 at one side of cassette 10. The other side of cassette 10 faces a camera 74 that captures images of the specimen. In such an arrangement Eastman is concerned only with the filling fluid matching the optical index of the immersion objective lens 64a (Col. 11, lines 4-12 and Col. 11, lines 52-55), and with reducing the effect of corrugation by matching the refractive index of the immersion liquid with the tissue (Col. 12, lines 15-17). There is no need for the Eastman arrangement to have approximately the same refractive indices of the two coverslips and the filling medium, as claimed in amended independent Claim 1. There is nothing in Eastman that could make one suggest approximately the same refractive indices of the two coverslips and the filling medium. All Eastman cares about is that the pliable thin membrane 26 be bendable and bondable to window 16. The clear plastic food wrap described in Eastman as that membrane 26 has a known refractive index which does not have to be approximately the same as that of window 16 or the filling fluid, contrary to what is claimed in amended Claim 1.

Furthermore, the Patent Office asserted that Lannai patent discloses “the use of a mirror (76) surrounding a sample region (Fig. 7) and that it would have been obvious to a person of ordinary skill in the art to include the mirror of the Lannai invention...” Applicant objects and asserts that Lannai dichroic mirror 76 in Fig 7 (as described in Col. 9, lines 28-38) is not disposed on the second coverslip. Amended Claim 1 is directed to the second coverslip having a mirror-coated zone (disclosed in paragraph [0036] of the specification) and a sample region both defined on the second coverslip. No such elements are disclosed anywhere in the Lannai patent.

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Therefore, for reasons presented above, the combination of Eastman and Lannai does not disclose all the elements of amended independent Claim 1. For the same reasons presented above, no teaching and motivation to combine could be found in Eastman and Lannai, since they cannot contain any motivation to combine the teachings they do not have. Therefore, the Patent Office has not made a prima facie case of obviousness of amended Claim 1 over Eastman in view of Lannai. Therefore, amended Claim 1 satisfies the patentability requirements under 35 U.S.C. 103(a) over Eastman in view of Lannai and should be allowed. Withdrawal of this rejection and allowance of amended Claim 1 is respectfully solicited.

Claims 2-13 depend off now allowable amended Claim 1 and are allowable. Allowance of dependent Claims 2-13 is respectfully solicited.

Applicant believes that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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